L Number	Hits	Search Text	DB	Time stamp
1	2	("6069243").PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 18:30
2	0	(("6069243").PN.) and (tri adj1 chloroacetic)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 18:31
3	0	(("6069243").PN.) and ((trichloroacetic) (tri-chloroacetic))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 18:31
4	12685	trichloroacetic) (tri-chloroacetic	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 18:31
5	1152	(trichloroacetic) (tri-chloroacetic) and (deprotect$)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 18:31
6	231	((trichloroacetic) (tri-chloroacetic) and (deprotect$)) and (deprotect$ same agent$1)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 18:32
7	43	(((trichloroacetic) (tri-chloroacetic) and (deprotect$)) and (deprotect$ same agent$1)) and (acid same labile)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 18:36
8	155	((trichloroacetic) (tri-chloroacetic) and (deprotect$)) and (deprotect$ same ((trichloroacetic)(tri-chloroacetic)))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 18:37
9	30	(((trichloroacetic) (tri-chloroacetic) and (deprotect$)) and (deprotect$ same ((trichloroacetic)(tri-chloroacetic)))) and (acid adj1 labile)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 18:38
10	0	((((trichloroacetic) (tri-chloroacetic) and (deprotect$)) and (deprotect$ same ((trichloroacetic)(tri-chloroacetic)))) and (acid adj1 labile)) and ((6%) same ((trichloroacetic)(tri-chloroacetic)))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 18:39

L Number	Hits	Search Text	DB	Time stamp
1	57718	(array microarray chip biochip) same (fabricat$ mak$ synthesi$)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 12:06
2	515	((array microarray chip biochip) same (fabricat$ mak$ synthesi$)) and ((protect$ cap$) same (oh hydroxy$))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 12:10
3	0	(((array microarray chip biochip) same (fabricat$ mak$ synthesi$)) and ((protect$ cap$) same (oh hydroxy$))) and (protect same (labile adj3 label$))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 12:12
4	8	(((array microarray chip biochip) same (fabricat$ mak$ synthesi$)) and ((protect$ cap$) same (oh hydroxy$))) and (protect same (acid adj3 labile))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 12:13
5	3	((((array microarray chip biochip) same (fabricat$ mak$ synthesi$)) and ((protect$ cap$) same (oh hydroxy$))) and (protect same (acid adj3 labile))) and phosphite	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2002/03/06 12:13

FILE 'BIOSIS, MEDLINE, EMBASE, EMBAL, SCISEARCH, BIOTECHDS, CAPLUS'
ENTERED AT 15:54:38 ON 06 MAR 2002
L1 26322 S (**ARRAY**? OR **BIOCHIP**? **MICROARRAY**? **CHIP**?) AND
(**FABRICAT**? OR **SYNT**
L2 0 S L1 AND ((**PROTECT**? OR **CAP**?)()(**HYDROXY**? OH?))
L3 3830 S L1 AND (**PROTECT**? OR **CAP**?)
L4 176 S L3 AND (**HYDROXY**?)
L5 7 S L4 AND (**ACID**()**LABILE**?)
L6 0 S L5 AND (**PHOSPHITE**?)
L7 6 DUP REM L5 (1 DUPLICATE REMOVED)

L7 ANSWER 1 OF 6 SCISEARCH COPYRIGHT 2002 ISI (R) DUPLICATE 1
ACCESSION NUMBER: 2000:198761 SCISEARCH
THE GENUINE ARTICLE: 290NB
TITLE: Reversible **protect**ion and reactive patterning of amine- and **hydroxy**l-terminated self-assembled monolayers on gold surfaces for the **fabricat**ion of biopolymer **array**s
AUTHOR: Frutos A G; Brockman J M; Corn R M (Reprint)
CORPORATE SOURCE: UNIV WISCONSIN, DEPT CHEM, 1101 UNIV AVE, MADISON, WI
53706 (Reprint); UNIV WISCONSIN, DEPT CHEM, MADISON, WI 53706
COUNTRY OF AUTHOR: USA
SOURCE: LANGMUIR, (7 MAR 2000) Vol. 16, No. 5, pp. 2192-2197.
Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036.
ISSN: 0743-7463.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: PHYS
LANGUAGE: English
REFERENCE COUNT: 37
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The reversible **protect**ion of amine- and **hydroxy**l -terminated alkanethiol self-assembled monolayers (SAMs) on gold surfaces using the base-**labile protect**ing group 9-fluorenylmethoxycarbonyl (Fmoc) and the **acid-labile protect**ing group dimethoxytrityl (DMT) is described. When used in combination with UV photopatterning or mu-contact printing techniques, his reversible SAM **protect**ion chemistry can be used to control the reactivity and wettability of different portions of the surface. Such spatial control is utilized in the **fabricat**ion of DNA **array**s. Specifically, gold surfaces modified with the amine-terminated alkanethiol 11-mer**cap**toundecylamine (MUAM) are reacted with an N-**hydroxy**succinimide (NHS) ester derivative of Fmoc, forming a covalent urethane (carbamate) linkage and converting the

initially hydrophilic MUAM surface to a hydrophobic, Fmoc-terminated surface. Upon exposure of the Fmoc-modified surface to a solution of a secondary amine, the Fmoc is cleaved, regenerating the original hydrophilic MUAM surface. Fmoc is also utilized as a **hydroxyl protecting** group, as demonstrated by the reaction of Fmoc-Cl with a monolayer of 11-mer**cap**toundecanol (MUD). The hydrophobic **protecting** group DMT is reacted with the w-**hydroxyl** groups of both MUD and poly(ethylene glycol)-terminated alkanethiol (PEG-SH) SAMs to form an **acid labile** ether bond; removal of the DMT group is accomplished by soaking the surface in 3% trifluoracetic **acid**. A combination of polarization-modulation Fourier transform infrared reflection absorption spectroscopy (PM-FTIRRAS), surface plasmon resonance (SPR), and contact angle measurements is used to characterize the attachment and subsequent removal of the **protecting** groups. To demonstrate one application of this SAM **protection** chemistry and reactive patterning, a DNA **array** is **fabricated** and used in an SPR imaging measurement of the adsorption of the mismatch binding protein MutS.

L7 ANSWER 2 OF 6 **CAPLUS** COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:795794 **CAPLUS**
TITLE: Automated solid-phase **synthesis** of linear metallo-assemblies.
AUTHOR(S): Filocamo, Shaun S.; Tierney, Mark T.; Grinstaff, Mark W.
CORPORATE SOURCE: Department of Chemistry, Duke University, Durham, NC, 27708, USA
SOURCE: Abstr. Pap. - Am. Chem. Soc. (2000), 220th, INOR-348
CODEN: ACSRAL; ISSN: 0065-7727
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; Meeting Abstract
LANGUAGE: English
AB Assembling metal complexes in ordered **arrays** is of interest for applications ranging from light harvesting to mol. electronic devices. Many of the current soln.-phase strategies to **synthesize** metallodendrimers use the metal ion as a supramol. "glue" to link together the dendrimer units through coordination. Our strategy differs in that we will use solid-phase **synthetic** strategies to assemble metal complexes together via a phosphate linkage. We are applying the concepts previously developed for DNA **synthesis** to problems of material science whereby we construct highly regular and tunable metallo-dendrimers and metallo-chains. The first step requires **synthesizing** a Ru(diimine)32+ complex contg. both a primary and secondary **hydroxyl** group. The primary **hydroxyl** is subsequently **protecting** with an **acid labile** **protecting** group (DMT) and the secondary is activated for

phosphate coupling with cyanoethyl diisopropylchlorophosphoramidite. Using this novel Ru complex in a DNA solid phase **synthesizer** affords the ruthenium chain shown below.

L7 ANSWER 3 OF 6 **CAPLUS** COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:252551 **CAPLUS**
DOCUMENT NUMBER: 126:336736
TITLE: Chemically amplified photolithography for the **fabricat**ion of high density oligonucleotide **array**s
AUTHOR(S): Beecher, Jody E.; Mcgall, Glenn H.; Goldberg, Martin J.
CORPORATE SOURCE: Affymetrix, Santa Clara, CA, 95051, USA
SOURCE: Polym. Mater. Sci. Eng. (1997), 76, 597-598
CODEN: PMSEDG; ISSN: 0743-0515
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A chem. amplified photoimaging process for the **fabricat**ion of high d. oligonucleotide **array**s is developed. The process utilizes light to generate **acid** within a polymer coating to remove **acid-labile** dimethoxytrityl (DMT) **protect**ing groups on the 5' **hydroxy**l of the growing oligonucleotide. After application of the polymer film to the substrate, selective exposure produces **acid** in defined regions. The **acid** then effects the de**protect**ion of the oligonucleotide chain, allowing for specific coupling in the next growth step (after photoresist stripping).

L7 ANSWER 4 OF 6 **CAPLUS** COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:163915 **CAPLUS**
TITLE: Chemically amplified photolithography for the **fabricat**ion of high density oligonucleotide **array**s.
AUTHOR(S): Beecher, Jody E.; McGall, Glenn H.; Goldberg, Martin J.
CORPORATE SOURCE: Affymetrix, Santa Clara, CA, 95051, USA
SOURCE: Book of Abstracts, 213th ACS National Meeting, San Francisco, April 13-17 (1997), PMSE-358. American Chemical Society: Washington, D. C.
CODEN: 64AOAA
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB We have developed a chem. amplified photo process for the **fabricat**ion of high d. oligonucleotide **array**s. Using photolithog. and chem. amplification to generate **acid** within a polymer coating, the **acid-labile protect**ing groups

on the 5' **hydroxyl** of the growing oligonucleotide can be selectively removed, allowing for site specific coupling in the next growth step. The process can be tuned to have high sensitivity (20 mJ/cm2) or high contrast (.apprx.3.0) and has been used to **synthesize** oligonucleotides on a glass substrate in relatively high yields.

L7 ANSWER 5 OF 6 **CAPLUS** COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:488686 **CAPLUS**
TITLE: The solid phase **synthesis** of trisubstituted 1,4-diazabicyclo[4.3.0]nonan-2-one scaffolds via an intramolecular mitsunobu reaction.
AUTHOR(S): Swayze, Eric E.; Tinder, Robert
CORPORATE SOURCE: Department Medicinal Chemistry, Isis Pharmaceuticals, Carlsbad, CA, 92008, USA
SOURCE: Book of Abstracts, 214th ACS National Meeting, Las Vegas, NV, September 7-11 (1997), ORGN-286. American Chemical Society: Washington, D. C.
CODEN: 64RNAO
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB A representative series of 3,4,8-trisubstituted 1,4-diazabicyclo[3.4.0]nonan-2-ones has been prepd. on an automated parallel **array synthesizer** employing solid phase methodologies. A **protected** 4-**hydroxyproline** deriv. was attached to solid support via an **acid labile** amide linker. Elaboration off the proline nitrogen with an amino **acid** deriv., followed by an intramol. Mitsunobu cyclization provided the desired heterocycle, which could be further functionalized at the 4-position. The three chiral centers in the scaffold are derived from amino **acid** starting materials, allowing the **synthesis** of any isomer desired. This **synthetic** method proved to be both facile and general, and is suitable for the construction of large libraries of compds. for biol. assays. Complete **synthetic** details, including model soln. phase studies, solid phase development work, and automated parallel **synthesis** of representative compds. will be presented.

L7 ANSWER 6 OF 6 BIOTECHDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1997-13050 BIOTECHDS
TITLE: Chemically amplified photolithography for the **fabrication** of high density oligonucleotide **arrays**;
e.g. DNA probe **array synthesis** on an adsorbent (conference abstract)
AUTHOR: Beecher J E; McGall G H; Goldberg M J